

ABSTRACT OF THE DISCLOSURE

A piezo-electric tag in the form of a card has a first dipole antenna, a first rectification circuit, a piezo-electric transformer, a second rectification circuit, and a transponder circuit. In operation, the antenna receives incoming radiation and generates a corresponding signal which propagates to the first circuit which demodulates and filters it to generate a signal which is applied to the transformer to excite it. The transformer increases the voltage amplitude of the signal by generating a relatively higher voltage amplitude signal which is used in the tag to generate a signal for supplying power to the transponder. The transformer provides voltage magnitude enhancement to generate potentials suitable for operating active electronic circuits incorporated into the tag. The tag can be personnel wearable and even adapted for permanent inclusion into biological systems.